



Targets Management Office

PM ITTS Industry Days



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12 June 2003



Targets Management Office

INTRODUCTION



- Your briefer today will be Mr. Steve Milburn, Director, Targets Management Office (TMO)
- TMO folks live and work in Huntsville, Alabama
- We have several interesting and exciting topics to share with industry

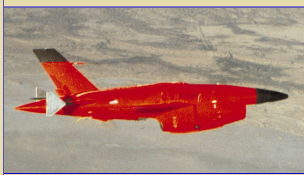


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WHAT WE DO

Based on customer target requirements

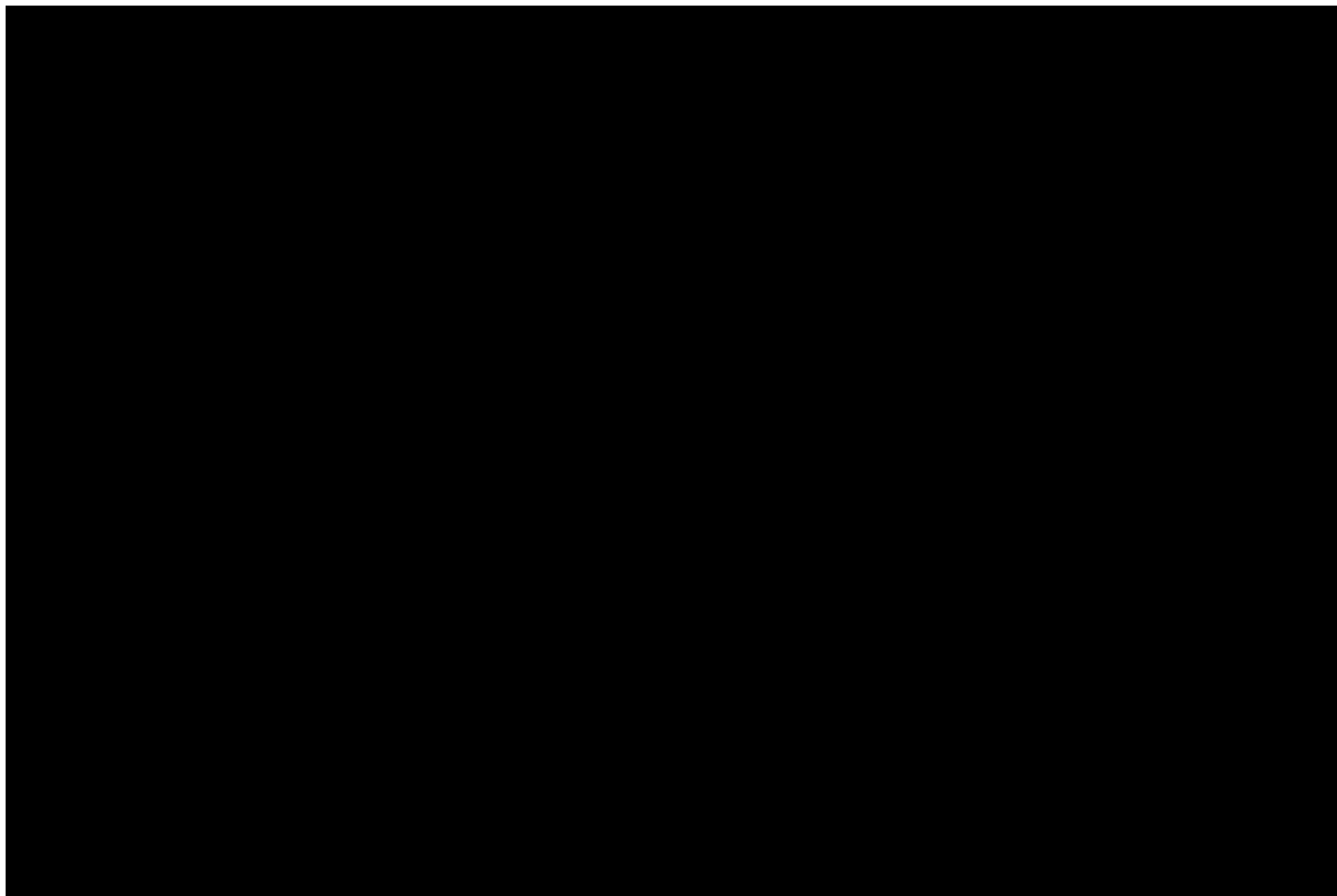
- Aerial - Fixed and Rotary Wing
- Mobile Ground / Foreign Materiel
- Short Range Theater Ballistic Missile
- Virtual - Models and Simulations
- Range Targetry Systems
- Auxiliary / Ancillary Equipment





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VIDEO





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TOPICS

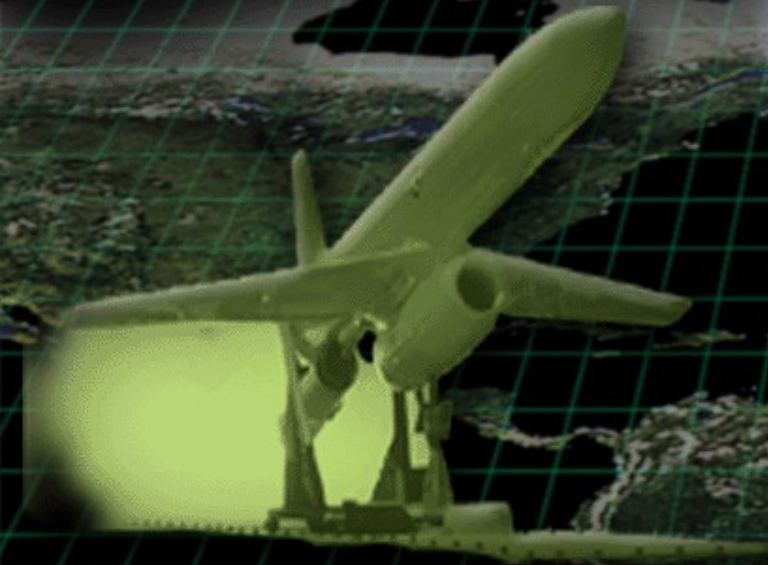
- MQM-107 Enhancements
- Unmanned Aerial Vehicle – Target (UAV-T)
- Flight Services
- New Generation Army Targetry System (NGATS)



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MQM-107 Enhancements

Project Director: Eric Block
Phone: 955-8428
E-mail: eric.block@peostri.army.mil





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OUTLINE

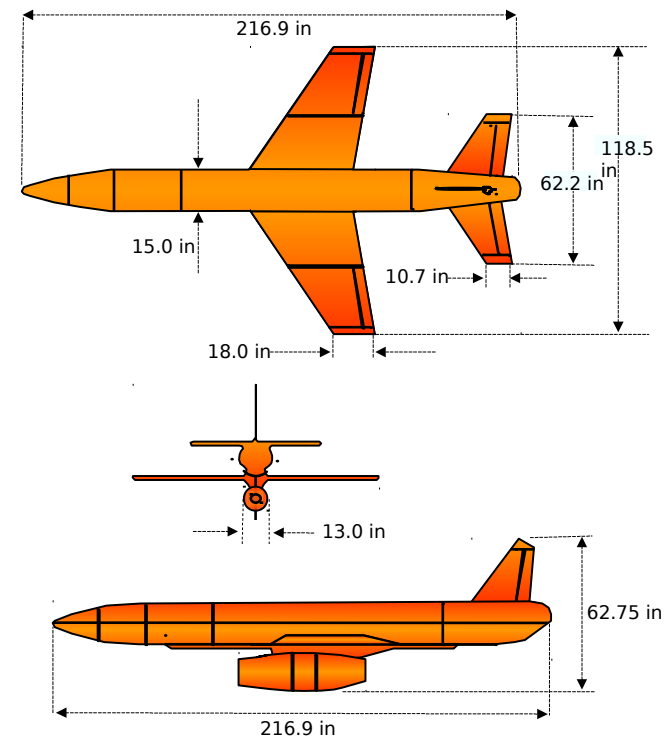
- Description
- Contract Information
- Schedule



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DESCRIPTION

- U.S. Army's most versatile subscale target
- Users (U.S. Army, Air Force, FMS)
 - Gun Systems
 - Missile Systems
 - Tracking Systems





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DESCRIPTION (cont'd)

- Altitude: 50K ft above MSL
- Airspeed: 250 - 600 KIAs
- Endurance: 70 min
- Variable RCS
- Recoverable
- Control: CDA
- Maneuvers:
 - Sustained 6.25 G turns
 - Barrel Roll
 - Pitchback
 - Slice
- Optional Payloads
 - Internal, 150 lb max
 - External, 300-500 lbs
 - Wingtip mounted pods
 - Towed targets
- Cost <\$300K in Production Quantities



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DESCRIPTION (cont'd)

- Fielded in 1976 as “A” model
- Improvements underway to develop “E” model replacement
- Future Production Expected to Incorporate Composite Structures, Improved Engine, Improved Avionics Package



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CONTRACT INFORMATION

- Contract Type – Firm Fixed Price
- Strategy
 - Full and Open Competition
 - Build to Print
 - Engines, Certain Avionics, Shipping Containers Supplied as GFE
- Estimated Contract Value < \$50M
- Engineering Services Option



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MQM-107 SCHEDULE



△ FY04 △ FY05 △ FY06 △ FY07 △ FY08 △ FY09 △

RFP Release



Contract Award



First Article Build & Test



Production Deliveries





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Unmanned Aerial Vehicle-Target

Project Director: Mike Brown

Phone: 955-0302

E-mail: mike.brown@peostri.army.mil





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OUTLINE

- Types of Unmanned Aerial Vehicles (UAV)
- Examples of Tactical UAVs
- Requirement
- Contract Information
- Program Schedule
- Summary



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UNMANNED AERIAL VEHICLES

HIGH ALTITUDE, ENDURANCE UAV
40,000'-65,000' ALTITUDE, 12+ HOURS
ENDURANCE



MEDIUM ALTITUDE, ENDURANCE UAV
20,000'-40,000' ALTITUDE, 12+ HOURS ENDURANCE



MEDIUM RANGE
40,000', 700 NM, Mach .91



TACTICAL CLASS UAV
100' - 20,000' ALTITUDE, > 8 HOURS
ENDURANCE



VTOL UAV
100'-20,000' ALTITUDE, > 8 HOURS
ENDURANCE



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TACTICAL CLASS UAV's





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REQUIREMENT

- Proliferation of UAVs by potential adversaries requires UAV target
 - Test of Weapon Systems
 - Training of Soldiers
- Significantly lower cost than operational UAV systems
 - Sensor Systems Not Required on Air Vehicle
 - Air Vehicle Cost does not Prohibit Target Destruction
- Simple to Operate and Maintain by Target System



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CONTRACTING INFORMATION

- Limited Project Funding Prohibits Supporting More than One Contractor's Concept
- Developmental Weapon Systems Schedules Drive UAV-T Development and Initial Production Schedules
- Statement of Objectives Solicitation
 - Allows Maximum Flexibility from Industry to Meet Performance Requirements
 - In Accordance With Current Acquisition Streamlining Initiatives
 - Provides Statement of Work and Preliminary Specification for Evaluation
 - Encourages Participation from Targets/Model Aircraft Industry
 - Allows Selection of Best Value Proposed Solution



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CONTRACTING INFORMATION

- Cost Efforts
 - Final Design
 - TTCS(U) Integration
 - Prototype
- Time and Materiel Efforts
 - Logistics Support
 - Field and Flight Operations Support
 - Engineering Services Support
- Fixed Price Efforts
 - Production (Up to 10 Units)
- Estimated Contract Value < \$5M



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UAV-T SCHEDULE

▲ FY03 ▲ FY04 ▲ FY05 ▲ FY06 ▲ FY07 ▲ FY08 ▲ FY09 ▲ FY10 ▲

RFP Release



Contract Award



Prototype Fab &
Refurb



Fabricate Targets



IOC





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UAV-T SUMMARY

- UAV-T will provide a representative, tactical class UAV target for test support (with expected overlap into training)
- Funding to support this effort is limited, innovative approaches will be required
- Project will be initiated in earnest during FY04 with a contract anticipated NET 3d QTR FY04 and NLT 1st QTR FY05



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Flight Services

Project Director: Charlie Rich
Phone: 876-5312
E-mail: charlie.rich@peostri.army.mil



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OUTLINE

- Background
- Contract Information
- Schedule



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BACKGROUND

PROGRAM DESCRIPTION: Flight Operations and System Sustainment Contract for Subscale Fixed Wing, Subscale Rotary Wing, Full Scale Rotary Wing and Ballistic Missile Target Systems.

SUPPORT SERVICES: Target Systems Are Flown at Numerous CONUS/OCONUS Ranges to Support Air Defense Artillery Training, RDT&E for the Tri-Services and Foreign Military Sales Requirements.

TARGET HARDWARE: Government Owned/Contractor Operated (GOCO) Targets, Ground Support Equipment and Control Systems.

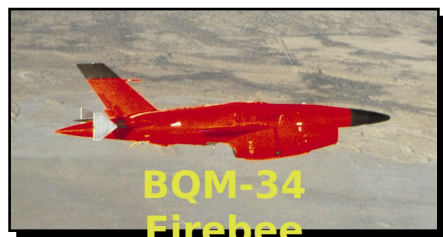
BASE CAMP: Located at OroGrande Range Camp, NM.



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AERIAL TARGET FLIGHT

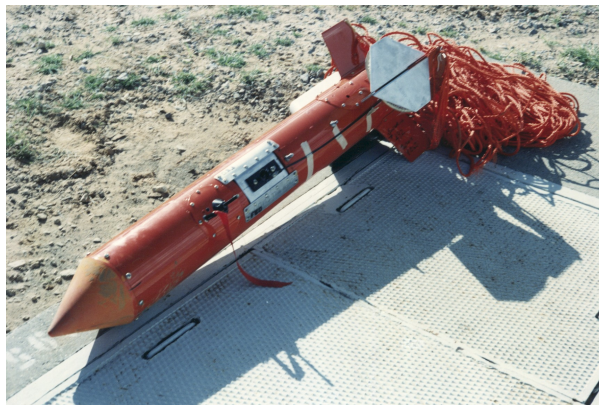
SERVICES





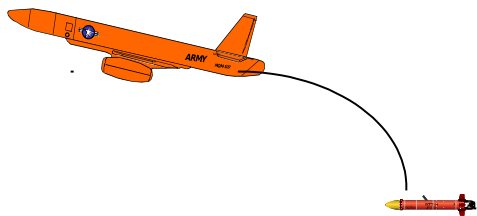
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TOW TARGETS



AGTT

Banner



TRX-4a



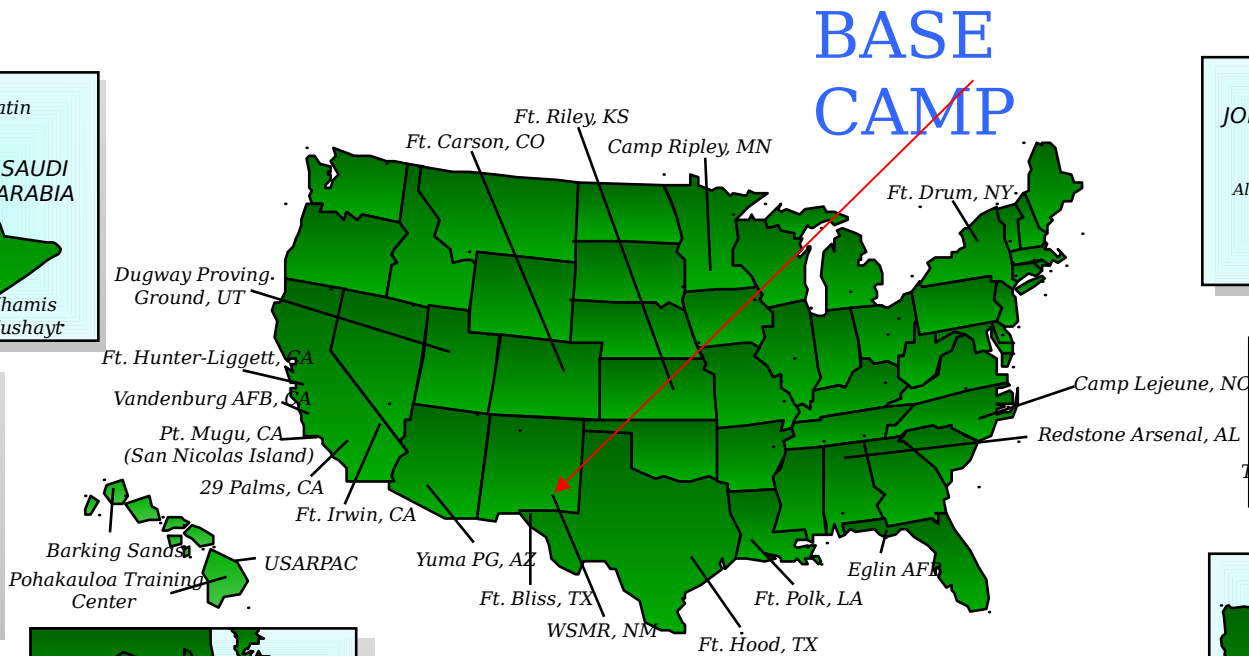
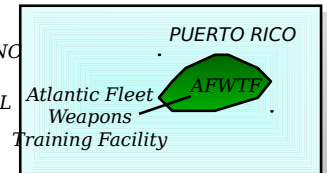
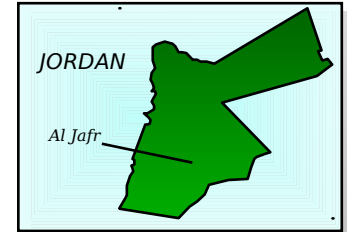
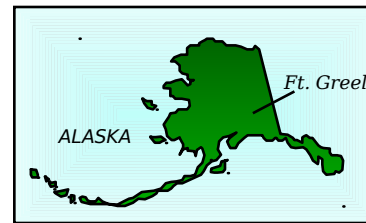
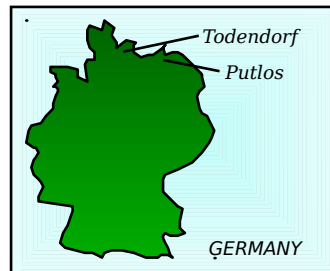
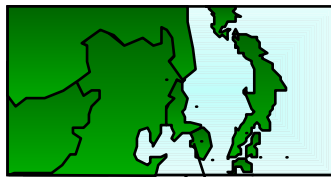
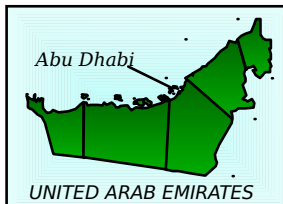
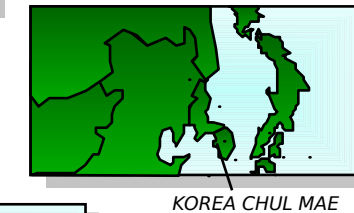
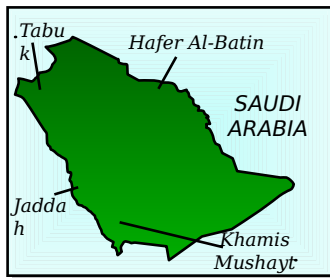
IRTT

POTA-Tow





Targets Management Office OPERATIONS LOCATIONS





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CONTRACT INFORMATION

- Contract Type: Firm Fixed Price
- Kind Of Award: Competitive (Full And Open Competition)
- Estimated Contract Value < \$20M
- Period Of Performance: 5 Years



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FLIGHT SERVICES SCHEDULE

FY03 FY04 FY05 FY06

**Request for
Information**



Issue Solicitation



Contract Award





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New Generation Army Targetry System

Projector Director: Steve Wright
Phone: 842-9490
E-mail: steve.wright@peostri.army.mil





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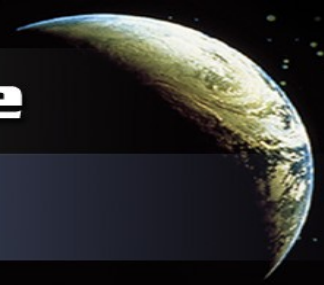
OUTLINE

- Organizational Structure
- Targetry Path
- What/Why New Generation
Army Targetry System (NGATS)
- Key Players
- Approach
- Status/Way Ahead
- Summary



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TARGETRY PATH



**1985/
1998**

RETS/ERETS

- Managed by TACOM Rock Island
- Development program with complete TDP
- Supply system - Army inventory
- Enhanced - control system upgrade

**1999/
2005**

INGATS/ATS

- Managed by TACOM Rock Island
- Commercial off the the shelf systems (COTS)
- Proprietary hardware/control system software
- Parts ordered through TACOM or Manufacturer

**2006/
2050?**

NGATS

- Managed by PEO STRI, PM ITTS, TMO
- Standardized System of Systems (Plug & Train)
- Integrated COTS and open-ended
Interoperability



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EXISTING TARGETRY

LEGACY CHALLENGES

- **Legacy Standard Systems (RETS/ERETS)**
 - Produceability
 - Capability
 - Obsolescence
 - Scoring
 - AAR capability
 - Scenarios
 - Realism
- **Legacy COTS Target Buys (INGATS/ATS)**
 - ***Supportability***
 - Reliability
 - Availability (scheduled maintenance)
 - Lifecycle costs
 - Interoperability
 - ***Standardization***
 - Capability
 - Multiple operating systems
 - Scoring



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“WHY NGATS?”

Training / Targetry Must Be:

Realistic



Army is transforming – Threat not only encompasses armored forces, but also unconventional adversaries and tactics !!!

Evolutionary



New weapon systems are being developed – Individual and crew !!!

Configurable & Deployable



Threat can be anywhere for any length of time !!!

Targetry must also be affordable and supportable



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NGATS KEY PLAYERS

Army Training Support Center (ATSC)



Army Training Modernization Department

U. S. Army Corps of Engineers (CoE)



PEO STRI
BG Stephen M. Seay



PM ITTS
COL Matthew J. Fair



Targets Management Office
Mr. Steve Milburn



NGATS
Project Director
Mr. Steve Wright



MACOMS
Range Reps



Industry Input

Department of the Army
DAMO-TR



All are part of IPT, providing valuable input



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WHAT IS NGATS?

Command & Control

Use CTIA
Point & Click, Scripted/Event
Scenarios, Open Architecture,
Maintenance Automation,
Data logging/Display
Live/Virtual/Constructive
Exchange

Target

Presentation

Stationary, Moving,
Evasive, Up/Down, Other

Package

Initial Spares, NET,
Sustainment
Training, Supply

Scoring

Hit/Miss Location, Kill
Assessment, Round
ID

Target

Representation

Multi-spectral, Realistic,
Multi-role, 2D,3D

Communications

Fiber Optics, Wire, RF,
Other

External

Interfaces

Instrumentation

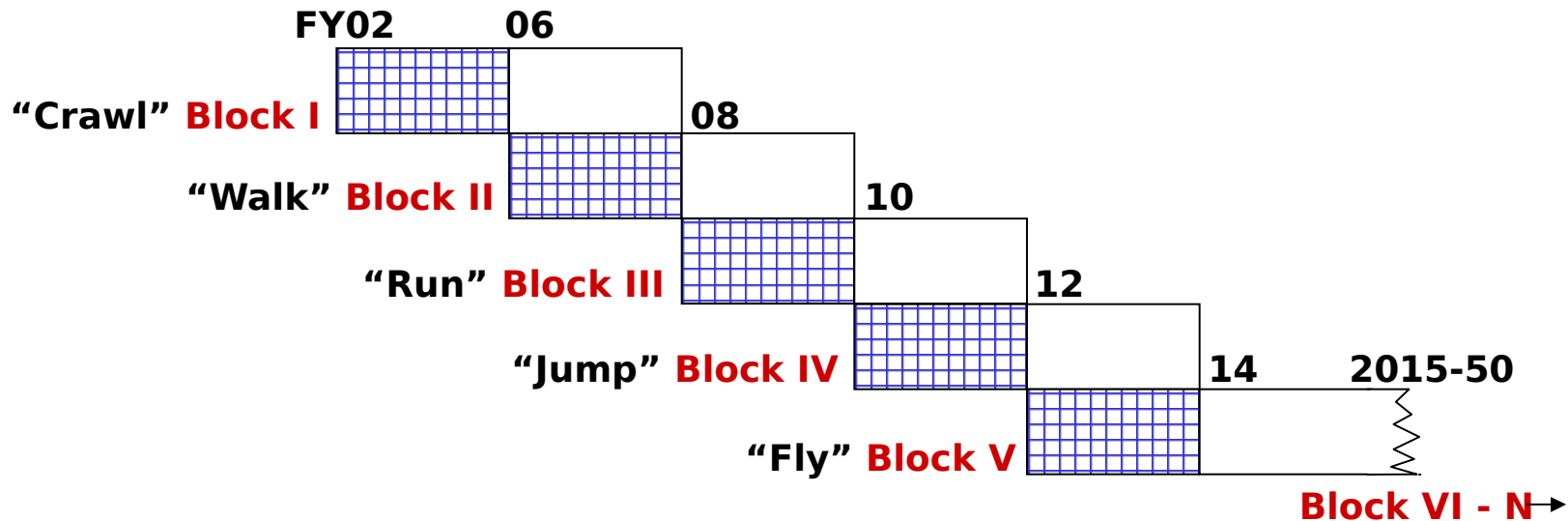
BES

Flash, Bang, Smoke, Shoot-
back



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NGATS VISION



Developed



Field



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ACQUISITION STRATEGY

- **Evolutionary**
 - Spiral development based on refined requirements and user feedback
 - **Blocked approach** based on continuous requirements definition and technology maturation

Block I - Meets current challenges at a reduced cost by establishing standards and leveraging existing COTS solutions

Block II and later - Based on future requirements, technology advancements, or training

← **Backward Compatibility/Enhanced Realism** →

- **Utilize Lead Systems Integrator (LSI) as Prime Contractor to:**
 - Supply and integrate range targetry - using qualified products
 - Field ranges
 - Provide New Equipment Training (NET)
 - Provide warranty coverage
 - Provide spare parts



NGATS LEAD SYSTEMS INTEGRATOR CONTRACT

- Multi Year Multi Type Contract
- Base Effort with Options
 - Base [12-18mo] (award late FY 04)
 - Integration (Cost)
 - Test/Demo at Ft Pickett, VA (Cost)
 - Options [1- 4 yrs] (initial award FY06)
 - Range Installations, [Fixed Price]
 - Range support, [Cost]
 - Engineering Services, [Cost]
 - Training [Fixed Price]
- Estimated Contract Value < \$100M



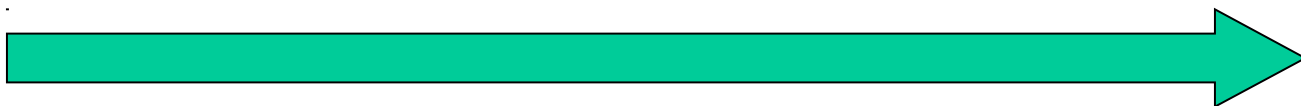
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NGATS SCHEDULE



FY03 FY04 FY05 FY06

Qualification Process



RFP Release



Block 1 Contract Award



Design / Integrate



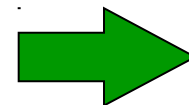
Testing @ Ft Pickett



IOC @ Ft Pickett



Fielding





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NGATS SUMMARY

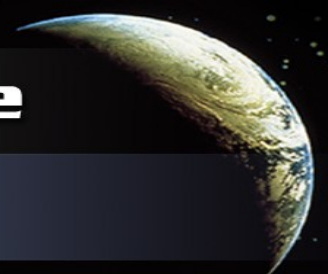


- Army has Targets Challenges
- NGATS Provides Effective Soldier Training Systems that are:
 - Standardized, Supportable, Interoperable
 - Reliable, Available, Maintainable
 - Realistic and Affordable
- NGATS Significantly Improves Range Operations:
 - Reduced Downtime
 - Efficient Scoring and Training Feedback
 - Greater Flexibility in Range Use and Targetry Asset Management
 - Reduced Maintenance and Operating Cost



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TOPICS SUMMARY



Topics	Estimated \$ Value	Earliest RFP Release Date
MQM-107 Enhancements	< 50M	3 rd Qtr FY04
Unmanned Aerial Vehicle Target	< 5M	3 rd Qtr Fy04
Flight Services	< 20M	4 th Qtr FY04
New Generation Army Targetry System	< 100M	3 rd Qtr FY04

Targets Management POC for Contract Information:
Ms. Kathy Engle
(256) 842-0381
E-mail: kathy.engle@peostri.army.mil



BACK-UPS



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ACRONYM LIST

AAR	After Action Report
AGTT	Aerial Gunnery Tow Target
ATFS	Aerial Target Flight Services
ATS	Army Targetry System
ATSC	Army Training Support Center
BATS	Ballistic Aerial Target System
BES	Battlefield Effects Simulation
CMTT	Cruis Missile Tow Target
COE	Corps of Engineers
CONUS	Continental United States
COTs	Commercial-off-the-shelf
CTEIP	Central Test & Evaluation Investment Program
CTIA	Common Training Instrumentation Architecture
DFCS	Drone Formation Control System
DoD	Department of Defense
ECM	Electronic Countermeasures
ERETS	Enhanced RETS
FMS	Forgien Material Sale
FY	Fiscal Year
GFE	Government Furnished Equipment



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ACRONYM LIST (cont'd)

GOCO	Government Owned / Contractor Operated
GRDCS	Gulf Range Drone Control System
HSMST	High Speed Mobile Sea Target
ID	Identification
INGATS	Interim New Generation Army Target System
IOC	Initial Operational Capability
IPT	Integrated Project Team
IRT	Infrared Towed Target
KIA	Knots in Air
LSI	Lead Systems Integration
LTMS	Lance Target Missile System
MACOM	Major Command
MDA	Missile Defense Agency
MSL	Mean Sea Level
MST	Mobile Sea Target
MSTCS	Multi-Service Target Control System
NET	New Equipment Training
NGATS	New Generation Target System
NLT	No Later Than



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ACRONYM LIST (cont'd)

OCONUS	Outside Continental United States
PEO STRI	Program Executive Office Simulation, Training & Instrumentation
PM ITTS	Program Manager Instrumentation, Targets & Threat Simulators
POTA-Tow	Patriot Omnidirectional (RCS) Training Aerial
OTR	Quarter
RCS	Radar Cross Section
RDT&E	Research Development Test & Evaluation
RETS	Remote Engagement Target System
RF	Radio Frequency
RFP	Request for Proposal
TACOM	Tank & Automotive Command
TBMTT	Tactical Ballistic Missile Training Target
TDP	Technical Data Package
TMO	Targets Management Office
TTCS(U)	Target Tracking Control System (Upgrade)
UAV	Unmanned Aerial Vehicle
UAV-T	Unmanned Aerial Vehicle - Target